

TEMPLATE POLYMERIZATION OF NUCLEOTIDE ANALOGUES

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Recent work on the template-directed reactions of the natural D-nucleotides has made it clear that L-nucleotides and nucleotide-like derivatives of other sugars would strongly inhibit the formation of long oligonucleotides. Consequently, attention is focusing on molecules simpler than nucleotide that might have acted as the monomers of an information-transfer system. We have begun a general exploration of the template-directed reactions of diverse peptide analogues.

I will present work by Dr. Kazuo Harada showing analogues in which phosphate groups are replaced by carboxylate groups will undergo template-directed oligomerization provided cyclization is prevented. I will also present work by Dr. Taifeng Wu on oxidative oligomerization of phosphorothioates and of Dr. Mary Tohidi on the cyclic polymerization of nucleoside and related cyclic pyrophosphates.